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# PROMJENE U MORFOLOŠKOJ STRUKTURI OSIJEKA NAKON 1991. GODINE

## *CHANGES IN THE MORPHOLOGICAL STRUCTURE OF OSIJEK AFTER 1991*

DRAŽEN NJEGAČ, SLAVEN GAŠPAROVIĆ, ZVONIMIR STIPEŠEVIĆ

**Izvod**

*Duga urbana tradicija i višestoljetni razvoj grada te političke, gospodarske i društvene promjene na početku 90-ih godina 20. stoljeća, glavni su čimbenici koji su utjecali na obilježja morfološke strukture Osijeka. Tijekom Domo-vinskog rata zaustavljena je bilo kakva izgradnja u Osijeku i stoga su sve značajne suvremene promjene u prostoru nastale u posljednjih desetak godina. U ovom će se radu istražiti, analizirati i definirati morfološka struktura Osijeka prije 1991. godine i danas te procesi koji su na nju utjecali, pri čemu je dan poseban osvrt na procese promjena i prenamjena korištenja zemljišta (gradnja višekatnih stambenih zgrada na mjestima površina niskih stambenih jedinica).*

**Ključne riječi:** prostorna struktura grada, morfološka struktura grada, interpolacije, Osijek

**UVODNE I METODOLOŠKE NAPOMENE**

U okviru urbane geografije, grad se može definirati kao dio određenog prostora izgrađen urbanim sadržajem. Izgrađeni objekti i uređene površine, koji čine urbani sadržaj, služe za potrebe stanovanja te za potrebe proizvodnih, uslužnih i drugih djelatnosti. Prostor grada ima izrazito kompleksnu međuovisnu prostornu strukturu koju definiraju tri sastavnice: funkcionalna, socijalna i morfološka (Vresk, 2002.). Prostorna struktura grada može se definirati kao urbana forma (odnosno morfolo-gija grada) te kulturni, gospodarski, socijalni i politički procesi unutar grada (Warf, 2006.). Pri tome morfolo-gija, odnosno morfološka struktura grada podrazumje-va prostorni raspored i međusobni odnos morfoloških elemenata na prostoru grada. Morfološki elementi, kao što su npr. zgrade i drugi objekti, ulice, trgovi, parcele, javne površine i blokovi zgrada, imaju svoje karakteri-stike u smislu gustoće izgrađenosti, visine, oblika, izgle-da objekata i slično (Vresk, 1990.b).

Morfološka struktura grada, kao uostalom i cjelo-kupna prostorna struktura, čest je predmet istraživanja geografije, ali i drugih znanosti. Neki se autori bave

**Abstract**

*A long urban tradition, centuries of development and the political, economic and social changes that occurred in the early 1990s are the main factors that have impacted the morphological structure of the City of Osijek. During the Homeland War, all construction in Osijek was halted, and therefore all significant contemporary changes in the area have been made in the past decade. This paper investigates, analyses and defines the morphological structure of Osijek prior to 1991 and today, and the processes that have affected it. Special emphasis is given to the processes of changing and rezoning land (construction of multi-story residential build-ings in areas previously covered by low residential units).*

**Key words:** city spatial structure, city morphological structure, interpolations, Osijek

**INTRODUCTION AND NOTES  
ON METHODOLOGY**

Within the frame of urban geography, a city may be defined as a part of a specific area built up with urban structures. The constructed buildings and maintained sur-faces that comprise the urban content serve the needs of the population for production, services and other activities. The city area has an exceptionally complex and interde-pendent spatial structure comprised of three components: the functional, social and morphological (Vresk, 2002). The spatial structure of a city can be defined as the urban form (or city morphology) and the cultural, economic, so-cial and political processes within the city (Warf, 2006). In this, the morphology, or morphological structure of the city, implies the spatial layout and mutual relationship of the morphological elements in the city area. Morphologi-cal elements, such as buildings and other structures, streets, squares, plots, public areas and city blocks, have their own characteristics in the sense of construction density, height, shape, appearance, and the like (Vresk, 1990b).

The morphological structure of the city, like the over-all spatial structure, is often the subject of geographic

proučavanjem morfološke strukture pojedinačnih gradova: npr. Rebernik (1994.) istražuje suvremene karakteristike morfološke strukture Celja, analizirajući prostorni raspored morfoloških elemenata i odabranih skupina stanovništva, dok Ondoš (2003.) proučava karakteristike morfološke strukture gradskog središta Bratislave od osamostaljenja Slovačke. Drugi se pak bave analizom većeg broja gradova u širem geografskom prostoru, npr. Abarkan (2009.) proučava morfološku strukturu švedskih gradova nakon II. svjetskog rata, a u kontekstu kritike poslijeratne obnove i masovne izgradnje stambenih jedinica u predgrađima, koji su u suprotnosti s tradicionalnim načinima izgradnje. Kubat (2010.) proučava morfološku strukturu turskih gradova u Anatoliji i Trakiji, smatrajući je temeljem socioekonomskih procesa i biljegom kulturnog identiteta u Turskoj. Od novijih radova izvan europskih autora, spomenimo da Rego i Meneguetti (2008.) istražuju britanski utjecaj na morfološku strukturu gradova u brazilskoj saveznoj državi Paraná, koje je projektirala britanska tvrtka „Paraná Plantations“, posebice utjecaj „vrtne gradova“ s kraja 19. i početka 20. stoljeća na oblik i organizaciju gradova u spomenutom prostoru, dok Satoh (2008.) proučava suvremene promjene u morfološkoj strukturi japanskih gradova-dvoraca.

Istraživanja morfološke strukture hrvatskih gradova relativno su malobrojna. Teorijske osnove prostorne, a time i morfološke strukture dao je Vresk (1990.a, 1990.b, 2002.). Suvremenim promjenama u morfološkoj strukturi gradske jezgre Bjelovara bavio se Biškup (2002.). Prelogović (2008.) u svojoj doktorskoj disertaciji parcijalno zahvaća i problematiku morfološke strukture Zagreba. Slukan Altić (2006.) istražuje promjene u morfološkoj strukturi Donjeg grada u Zagrebu od 1862. do 1914. godine, a morfološku strukturu Hvara, u okviru cjelokupnog urbanističkog razvoja grada, proučava Rajčić (2006.). Slavuj i dr. (2009.) obrađuju tematiku problemskih područja u postsocijalističkom Zagrebu u kontekstu promjena u funkcionalnoj i morfološkoj strukturi uslijed djelovanja socijalnih, ekonomskih i političkih faktora.

Detaljna i sveobuhvatna istraživanja o morfološkoj strukturi grada Osijeka nisu provedena, no valja spomenuti autore koji su dali svoj doprinos raspravi o urbanom i geografskom razvoju Osijeka, dotičući se i morfološke strukture grada. Njegač i dr. (2010.) analiziraju funkcionalno-prostornu strukturu Osijeka, historijsko-geografskim razvojem Osijeka bave se Pepeonik (1972.) te Poličić i Husanović Pejnović (1996.), a povijesni razvoj Osijeka od sredine 12. stoljeća uz pomoć povijesnih karata grafički opisuju Gaćina i Ivanković (1996.). Šmit (1997.) istražuje tematiku vrtne i parkovne arhitekture Osijeka na povijesnim kartama, dotičući se morfološkog elementa u okviru kronološkog, tipološkog i razvoj-

research, as well as other of sciences. Some authors have studied the morphological structure of individual cities, e.g. Rebernik (1994) investigated the contemporary characteristics of the morphological structure of Celje by analysing the spatial layout of morphological elements and selected population groups, while Ondoš (2003) examined the characteristics of the morphological structure of the centre of Bratislava since Slovakia's independence. Others have analysed a large number of cities in a broader geographic area, e.g. Abarkan (2009) studied the morphological structure of Swedish cities after World War II, and in the context of a review of post-war reconstruction and the mass construction of residential units in the suburbs that were contrary to the traditional construction methods. Kubat (2010) examined the morphological structure of Turkish cities in Anatolia and Trakia, with regard to the fundamental socioeconomic processes and Turkey's cultural identity. Of more recent studies by non-European authors, Rego & Meneguetti (2008) investigated the British influence on the morphological structure of cities in Brazil's province of Paraná, as designed by the British company "Paraná Plantations", particularly the influence of the "garden cities" from the turn of the 20<sup>th</sup> century on the form and organisation of cities in this area. Satoh (2008) examined the contemporary changes in the morphological structure of Japan's city-castles.

There are relatively few studies on the morphological structure of Croatia. Vresk (1990a, 1990b, 2002) gave the theoretical fundamentals of the spatial and morphological structures. Biškup (2002) examined the contemporary changes in the morphological structure of the centre core of Bjelovar. In his doctoral dissertation, Prelogović (2008) partially addressed the issue of the morphological structure of Zagreb. Slukan Altić (2006) researched the changes in the morphological structure of Zagreb's Donji Grad (Lower Town) from 1862 to 1914, while Rajčić (2006) studied the morphological structure of Hvar within the frame of the overall urban development of that town. Slavuj et al. (2009) investigated the issue of problem areas in post-Socialist Zagreb in the context of changes in the functional and morphological structure due to the effects of socioeconomic and political factors.

There have not been any detailed and comprehensive studies on the morphological structure of the City of Osijek, though it is worthwhile mentioning authors who have given their contribution to the discussion on the urban and geographic development of Osijek, in touching upon the city's morphological structure. Njegač et al. (2010) analysed the functional and spatial structure of Osijek, Pepeonik (1972) and Poličić & Husanović Pejnović (1996) examined the historical and geographic development of the city, while Gaćina & Ivanković (1996) gave a graphic description of the historical development of Osijek from the mid 12<sup>th</sup> century using historical maps. Šmit (1997) investigated the thematic garden and park architecture of

nog proučavanja navedene tematike uz kartografsko predočavanje. Povijesnim razvojem prostornog planiranja i analizom urbanističkog aspekta razvoja Osijeka bave se Jukić i Pegan (2001.), a proučavanjem procesa suvremene preobrazbe bastionskih utvrđenja Osijeka bave se Krajnik i dr. (2008.a, 2008.b).

Raspadom socijalističkog planskog sustava i ulaskom Republike Hrvatske u gospodarsku tranziciju, Osijek je doživio velike društveno-ekonomske promjene. Također, veliki utjecaj na razvoj grada imala su i izravna ratna razaranja početkom 1990-ih. Sve je to utjecalo na promjene u prostornoj strukturi, a samim time i u morfološkoj strukturi Osijeka. Stoga je glavni zadatak ovoga rada analiziranje promjena u morfološkoj strukturi grada u navedenom razdoblju (uz poseban osvrt na izgradnju višestambenih zgrada na površinama niskih jednostambenih jedinica). Pri izradi ovog rada korištene su metode samostalnog terenskog istraživanja i kartiranja, kartografske analize, obrade i analize statističkih podataka te parcijalnog korištenja i analize rezultata prethodnih istraživanja.

## RAZVOJ MORFOLOŠKE STRUKTURE OSIJEKA

### PLAN GRADA

Grad Osijek ima složeni plan grada i heterogenu strukturu koja je posljedica duge urbane tradicije i višestoljetnog razvoja grada. Na jezgre naselja čijim je spajanjem nastao grad, s vremenom su se dodavali novi dijelovi s novim rasporedom ulica, koji je ovisio o trenutnim društveno-ekonomskim uvjetima. Početkom razvoja sadašnje gradske mreže može se smatrati gradnja barokne tvrđave nakon oslobođenja grada od Turaka, unatoč postojanju antičkog, srednjovjekovnog i turskog Osijeka.

Osijek je baš zbog svog geoprometnog položaja više puta stradao u povijesti i bivao srušen do temelja te ponovo građen. Barokna Tvrđa je nastala na mjestu nekadašnjeg srednjovjekovnog i turskog Osijeka i zatečena urbanistička struktura je postupno promijenjena (Jukić, Pegan, 2001.). Izgrađena je na početku 18. stoljeća na osnovama turskog Osijeka. Stara orijentalna, stihijski izvedena, osnova turskog Osijeka u potpunosti je napuštena i pristupilo se planskom uređenju, organizaciji i izgradnji grada unutar zidina. Raspored blokova zgrada, ulica i trgova prati pravilan raster u kojem dominiraju dvije prometnice i za prilike utvrde relativno veliki glavni trg. Tvrđa je jedan od rijetkih dijelova grada koji ima pravilnu strukturu i to još očuvanu od osnutka do danas (sl. 1).

Osijek on historical maps, touching on the morphological elements in the frame of chronological, typological and development studies of this topic with map evidence. Jukić & Pegan (2001) addressed the historical development of spatial planning and analysis of the urban aspects of the development of Osijek, while Krajnik et al. (2008a, 2008b) studied the process of the contemporary transformation of the Osijek bastion fortress.

With the breakdown of the Socialist planning system and the entry of the Republic of Croatia into economic transition, Osijek experienced significant socioeconomic changes. The direct war destruction in the early 1990s also heavily affected the city's development. This all affected the changes in the spatial structure, and with that the morphological structure of Osijek. Therefore, the primary objective of this paper was to analyse the changes in the city's morphological structure in this period (with special emphasis on the construction of multiunit residential buildings in areas with low single family homes). Methods applied in this paper include independent field surveys and mapping, map analysis, processing and the analysis of statistical data and partial use and analysis of previous research results.

## DEVELOPMENT OF THE MORPHOLOGICAL STRUCTURE OF OSIJEK

### CITY LAYOUT

The City of Osijek has a complex city layout and a heterogeneous structure that is the result of a long urban tradition and centuries of development of the city. The joining of the settlement cores formed the city, and over time, new sections were added on with a new layout of streets, which typically depended on the socioeconomic conditions at the time. The construction of the Baroque fortress after liberation of the city from Turkish occupation can be considered the start of development of the current city network, despite the existence of Osijek during ancient, medieval and Turkish times.

Due to its geotransport position, Osijek has been attacked several times throughout history, destroyed completely and rebuilt. The Baroque fortress arose at the site of the early medieval and Turkish settlement of Osijek, and the urban structure in place was gradually replaced (Jukić & Pegan, 2001). The fortress was erected in the early 18<sup>th</sup> century on the foundations of the Ottoman Osijek. The earlier Oriental, elementary elements of Turkish Osijek were completely abandoned and a planned approach was taken to construction and organisation of the city within city walls. The distribution of city blocks, streets and squares was based on a regular pattern dominated by two streets and a relatively large main square for the size of the fortress. The fortress is one of the rare parts of the city that has a regular structure that has been preserved since its establishment to the present day (Fig. 1).

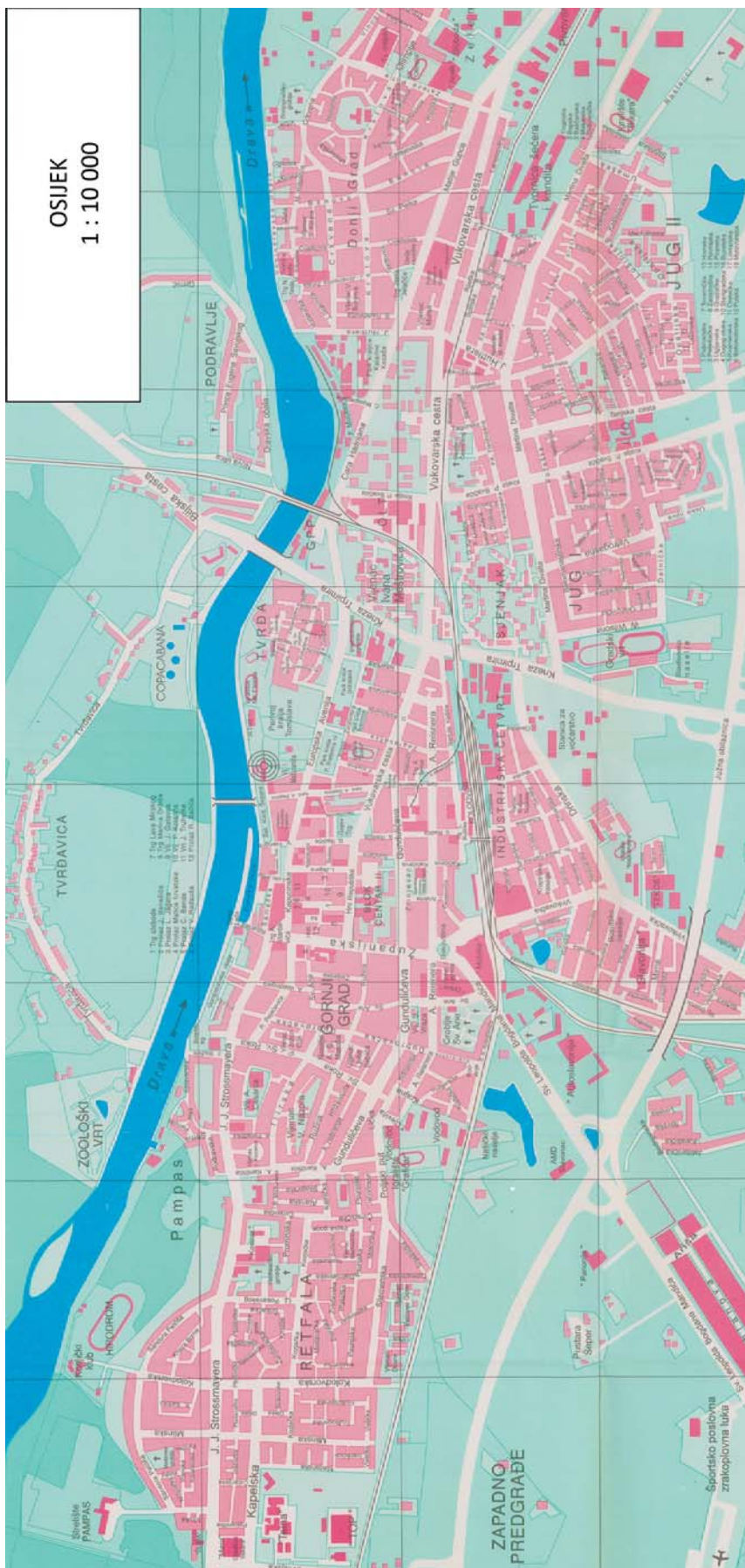




Sl. 1. Tvrđa - pravilna mreža ulica  
Fig. 1. Fortress - regular street network

Izvor: Google Earth, 23. listopada 2011. / Source: Google Earth, 23 October 2011





Sl. 2. Mreža ulica grada Osijeka

Fig. 2. Street network of the City of Osijek

Izvor: Sršan, 2000.

Source: Sršan, 2000

U ostatku Osijeka, dijelovi grada s donekle pravilnom mrežom ulica izmjenjuju se s dijelovima grada s nepravilnom mrežom (sl.2).

U Osijeku ne postoji karakteristični „osječki blok“, ni po veličini niti po obliku. U Donjem i Gornjem gradu blokovi su često svojom površinom i desetak puta veći od bloka u Tvrđi. Tip bloka koji se pojavljuje i u drugim dijelovima grada izduženi je blok nekoliko puta veće širine negoli dužine i blok velike površine omjera stranica 1:2, gdje je prisutna gradnja unutar njega (Jukić, Pegan, 2001.). Gradnja unutar bloka česta je u Osijeku, a građevine su različitih namjena. Uglavnom je to stambena gradnja, a o veličini bloka ovisi radi li se o stambenom naselju jednoobiteljskih kuća ili višestambenih zgrada (sl. 3.).

Ostala gradnja unutar blokova odnosi se na škole, industriju, groblje, poslovne objekte i sportska igrališta. Karakteristika gradnje unutar bloka je da su gotovo sve interpolacije nastale planski nakon II. svjetskog rata, u razdoblju kada je politička vlast odlučivala o mjestu, načinu, obliku i namjeni gradnje, što je u uvjetima tržišne ekonomije i privatnog vlasništva gotovo nemoguće zbog previše privatnih interesa, osim u gradnji novih naselja, ali u tom se slučaju ne radi o interpolaciji.

U godinama visoke urbanizacije, velike površine gradskog građevinskog zemljišta bile su zaposjednute „divljom“ individualnom gradnjom, što je kasnije postala prepreka optimalnom razvoju grada prema južnim granicama.

#### TIPOVI ZGRADA I NAČIN GRADNJE

U analizi morfološke strukture grada posebna se pozornost pridaje tipovima zgrada. Izdvaja se šest najznačajnijih obilježja koji utječu na morfologiju pojedinih dijelova grada. To su: položaj kuća u odnosu prema ulici, način gradnje duž ulice, starost zgrada, visina zgrada, građevni materijal i oblik krova (Vresk, 2002.).

Određena obilježja elemenata morfološke strukture zajednička su cijelom gradu. Materijal kojim su građene kuće najčešće je opeka, a ponegdje, i u manjem broju, starije su kuće od zemlje ili od kamena. Godine 1981. je bilo 98,3% stanova u zgradama od tvrdog materijala (Studija demografskog razvitka, 2001.).

Položaj kuća u odnosu na ulicu razlikuje se u gradu. U pravilu su kuće u starijim naseljima čeonom stranom okrenute prema ulici. Oblik krova je, kao i u većini kontinentalne Hrvatske, najčešće dvostrešni (sedlasti),

In the remainder of Osijek, parts of the city with a relatively regular street network alternate with city areas with an irregular network (Fig. 2).

The city does not have a typical “Osijek block” in terms of size or shape. In the Lower and Upper Towns, the blocks are often times up to ten times larger than the blocks in the fortress. The type of block that appears in other parts of the town is an elongated block, several times wider than long, and a block with a side ratio of 1:2 where construction within the block is also present (Jukić & Pegan, 2001).

Building within blocks is common in Osijek, and structures are of varying intent. This is primarily residential construction, while the size of the block determines whether this will be a residential area with single family homes or multiunit buildings (Fig. 3).

Other within block construction pertains to schools, industry, cemeteries, commercial structures and sports fields. The characteristics of within block construction is that these are virtually all planned interpolations that arose after World War II, at a time when the political authorities decided on the place, manner, form and intent of construction, which is virtually impossible under conditions of a market economy and private ownership due to excessive private interests. The exception is the construction of new settlements, however, in that case, this is not interpolation.

In the years of high urbanisation, large areas of the city construction zones were taken over by uncontrolled individual construction, which later became a barrier to the optimum development of the city towards its southern borders.

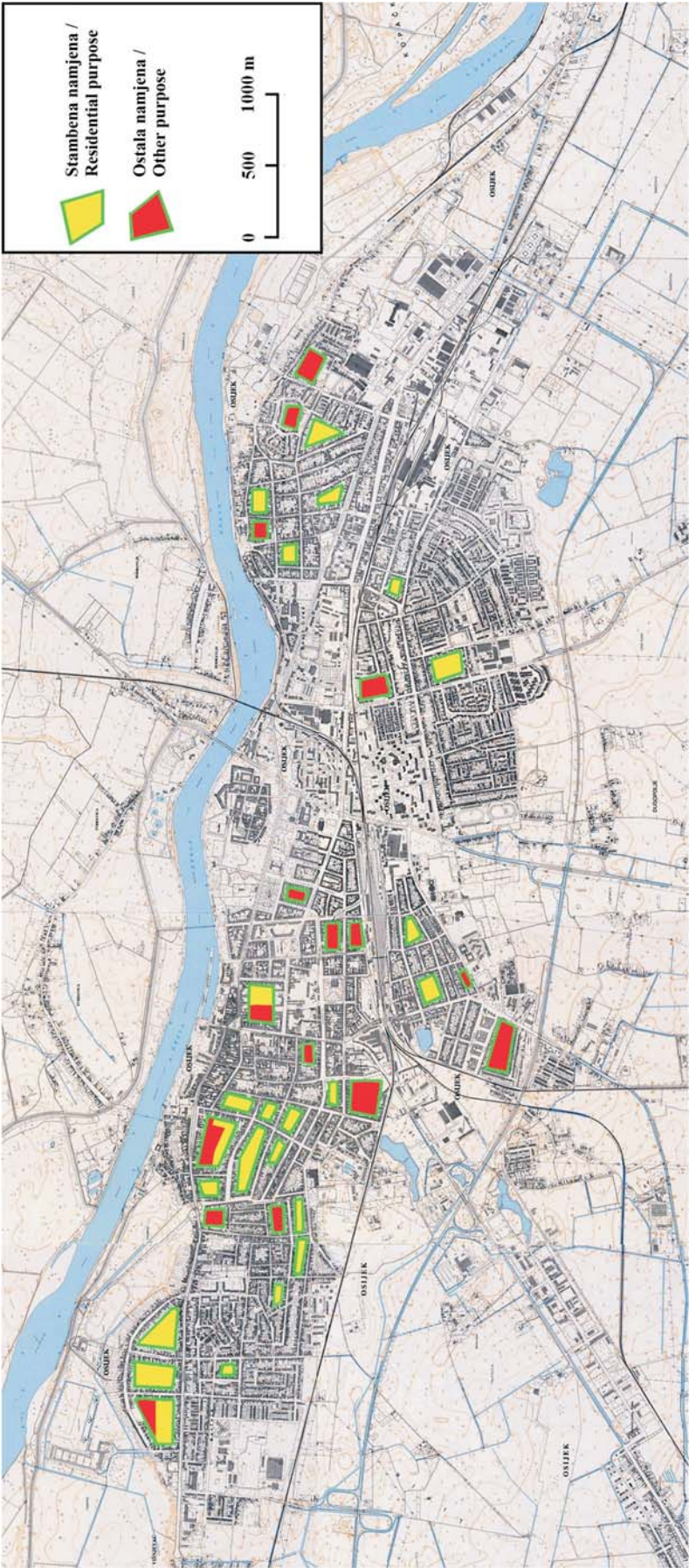
#### TYPES OF BUILDINGS AND MANNER OF CONSTRUCTION

In the analysis of the morphological structure of the city, special attention is given to the types of buildings. Six characteristics can be distinguished as having the most significant impact on the morphology of individual parts of the city. These are: position of houses in relation to the street, manner of building along the street, age of buildings, height of buildings, construction material and shape of roof (Vresk, 2002).

Certain characteristics of the morphological structure elements are common throughout the city. The most common building materials for houses is brick and in places, though in smaller numbers, the older houses are made from earth or stone. In 1981, 98.3% of the flats were in buildings made of solid materials (Studija demografskog razvitka, 2001).

The position of houses in relation to the street varies throughout the city. In general, in older areas, the houses are turned with their front side towards the street. The roof shape, like in the majority of continental Croatia,





Sl. 3. Gradnja unutar bloka  
Fig. 3. Within block construction

s kutom od oko 90° u nižim građevinama, i ravni na višestambenim zgradama.

Postoje dva načina gradnje duž ulice: otvoreni i zatvoreni. Otvoreni način gradnje, gdje se kuće međusobno ne dodiruju, karakterističan je za dijelove grada udaljenije od centra, gdje su veće parcele i nema potrebe za gustom gradnjom, a također je karakterističan i za novije dijelove grada (Vresk, 2002.). U Osijeku se otvorena gradnja pojavljuje rijetko, samo u manjim dijelovima, pogotovo u četvrtima Retfala i Jug 2, ali ni to nije naglašena otvorena gradnja s obzirom da su kuće međusobno udaljene svega nekoliko metara.

Primjer otvorene gradnje su i planski izgrađena naselja kolektivne visoke višestambene gradnje poput Sjenjaka i Vijenca Ivana Meštrovića gdje su zgrade ipak međusobno udaljenije. Zatvorena gradnja je posljedica planskih mjera iz prošlosti, kada se vodila politika povećanja gustoće izgrađenosti kako bi se „gradu prištedjeli veliki troškovi izgradnje, uređenja i održavanja novih ulica“ (Jukić, Pegan, 2001.). Posljedica uštede na gradnji infrastrukture i velike praktičnosti zatvorene gradnje jesu izdužene parcele s užom frontom.

U morfološkoj strukturi, s obzirom na visinu zgrada, prizemni objekti dominiraju starim dijelovima grada (Retfala, zapadni dio Gornjeg grada, Industrijska četvrt, Donji grad) te novijim dijelovima nastalima u razdoblju ubrzane urbanizacije 1960-ih godina (Retfala, Jug 1)<sup>1</sup>. Organizirana nova izgradnja stambenih objekata za individualno stanovanje u većini slučajeva je visine jednokatnice, a u kolektivnom stanovanju peterokatnice, a ponegdje i više (Sjenjak i Vijenac Ivana Meštrovića do 13 katova). Panoromom središta grada dominiraju Župna crkva Sv. Petra i Pavla, Hotel Osijek i Crveni neboder na Trgu Slobode, a od viših zgrada još se ističu „četverolist“ na Vijencu Ivana Meštrovića i poneke zgrade na Sjenjaku.

#### INTERPOLACIJE VIŠESTAMBENIH ZGRADA MEĐU NISKU OBITELJSKU GRADNJU

Budući da zbog prije navedenih razloga do 1998. godine nije bilo gotovo nikakve gradnje, Osijek se nije širio i izgrađeno je samo nekoliko novih ulica, tako da je mreža ulica neznatno povećana. Područja nove gradnje u Osijeku su Uske njive, Retfala nova i poneka produženja starih ulica.

<sup>1</sup> Većina stanova u Osijeku izgrađena je između 1961. i 1981. godine, što se poklapa s razdobljem ubrzane urbanizacije i velikog povećanja broja stanovnika Osijeka, sa 71.782 na 103.026 (Wertheimer-Baletić, 1996.).

is most often saddle-like, with an angle of about 90° in lower structures, and flat in higher structures.

There are two types of construction along the streets: open and closed. The open construction style, where houses do not touch is characteristic for the parts of town more distant from the centre, where the plots are larger and there is no need for dense construction, and is also characteristic for the newer parts of town (Vresk, 2002). The open type of construction appears rarely in Osijek, only to a small extent, particularly in the neighbourhoods Retfala and Jug 2, however, this too is not pronounced open construction considering that the houses are only separated by several metres.

Examples of open construction are the planned neighbourhoods of collective tall multiunit buildings, such as Sjenjak and Vijenac Ivana Meštrovića, where the distance between buildings is larger. Closed construction is a consequence of past planning measures that were based on the policy to increase construction density so as to “save the city the great costs of construction, equipping and maintaining new streets” (Jukić & Pegan, 2001). The consequence of saving on city infrastructure and the great practicality of closed construction are the elongated plots with a narrow front area.

In the morphological structure, with regard to the height of buildings, one-story structures dominate in the older parts of town (Retfala, western part of the Upper Town, Industrial neighbourhood, Lower Town) and in newer parts that arose during the rapid urbanisation period of the 1960s (Retfala, Jug 1)<sup>1</sup>. The organised new construction of residential structures for individual living are one-story structures, in most cases, and five stories and occasionally higher for collective living (Sjenjak and Vijenac Ivana Meštrovića to 13 stories). The panorama of the city centre is dominated by the Parish Church of Sts. Peter and Paul, Hotel Osijek and the red high-rise building on Trg Slobode. Of the taller buildings, the four-leaf building on Vijenac Ivana Meštrovića and several buildings on Sjenjak stand out.

#### INTERPOLATION OF RESIDENTIAL BUILDINGS AMONG LOW FAMILY HOMES

Considering that there was virtually no construction until 1998 for the reasons listed above, Osijek did not expand, and only a few new streets were built, and as such the street network was only insignificantly increased. The areas of new construction in Osijek are Uske Njive, Retfala Nova and the expansion of existing streets in places.

<sup>1</sup> The majority of flats in Osijek were built between 1961 and 1981, which corresponds with the period of rapid urbanization and a large increase in the population of Osijek, from 71,782 to 103,026 (Wertheimer-Baletić, 1996).



Dominantno obilježje stambene gradnje nakon 1991. godine je gradnja radi ostvarivanja što većeg profita, često nauštrb humanizirane gradnje koja je bila uobičajena u ranijem razdoblju. Privatni investitori, pogotovo u prvim godinama nakon rata, često su gradili zgrade koje su sami projektirali, bez korištenja arhitektonskih usluga, što je prouzrokovalo funkcionalne i estetske probleme (sl. 4). Obilježje gradnje nakon 1991. godine je maksimalna dozvoljena izgrađenost parcele, a ponekad čak i premašivanje dozvoljene gradnje.

The dominant characteristic of residential construction after 1991 was construction aimed at maximizing profit, oftentimes at the expense of the more humane construction that was common in previous periods. Private investors, particularly in the initial years after the war, often built building they designed themselves, without an architect, which resulted in both functional and aesthetic problems (Fig. 4). The properties of construction after 1991 are the maximum permitted plot coverage, which was oftentimes exceeded.



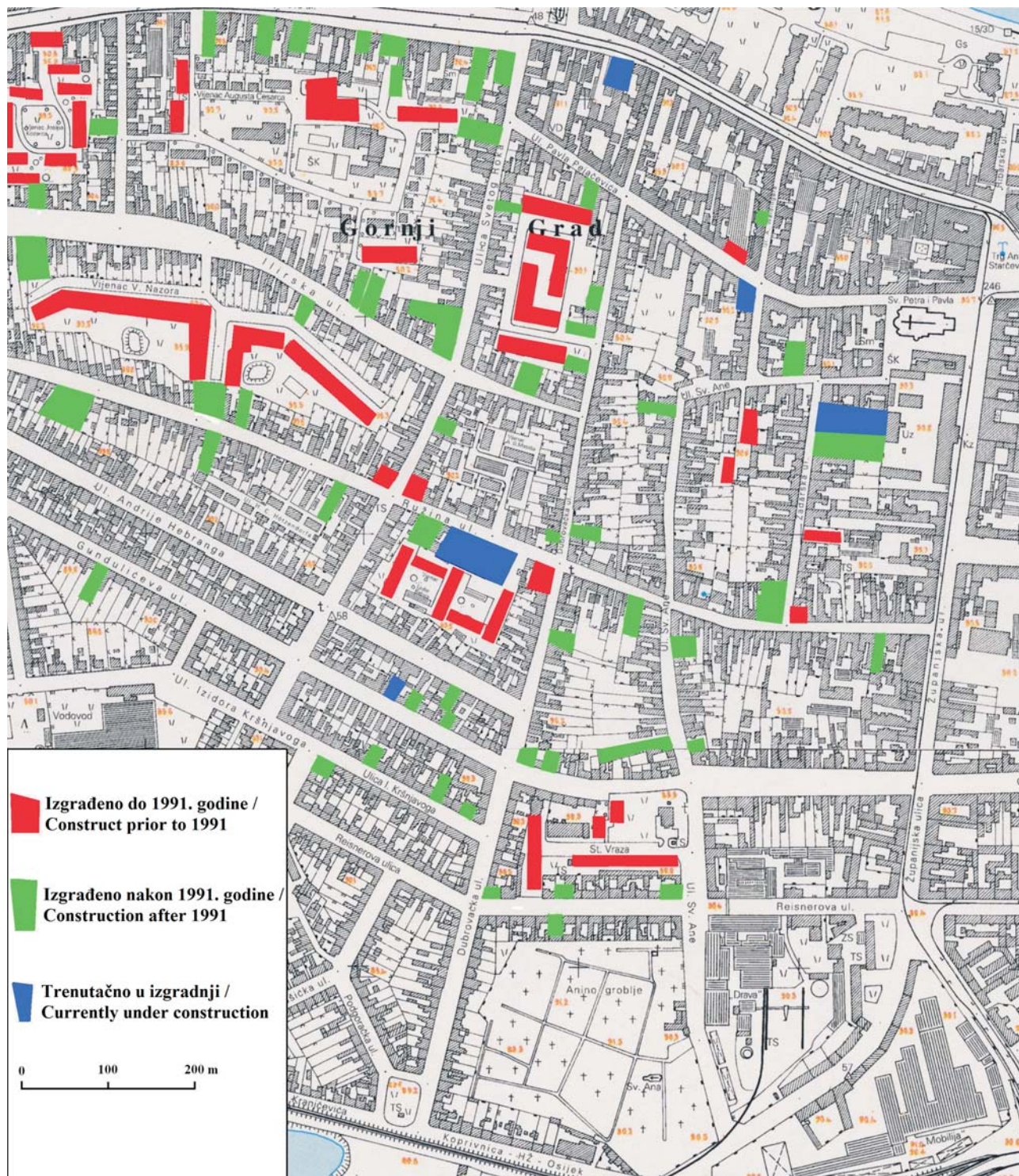
Sl. 4. Primjeri interpolacija visokih stambenih zgrada u nizove obiteljskih kuća  
Fig. 4. Examples of interpolations of tall residential buildings in rows of family homes

Izvor: Stipešević (vlastite fotografije, veljača 2011.)  
Source: Stipešević (own photograph, February 2011)

U ovom će se radu detaljnije razmotriti stanje u zapadnom dijelu Gornjeg grada, omeđenom Strossmayerovom ulicom na sjeveru, Županijskom na istoku, Kanižličevom na zapadu i Reisnerovom na jugu (sl. 5). To je područje odabrano iz razloga što je u njemu nova višestambena izgradnja najviše došla do izražaja i promijenila izgled četvrti. Radi se o stambenom području većinom obiteljskih kuća s nekoliko planski izgrađenih stambenih naselja visoke gradnje, uglavnom unutar blokova, i nekoliko viših zgrada raspoređenih po četvrti, s manjim brojem poslovnih objekata, uglavnom trgovačkih i ugostiteljskih. Razlog zašto se masovna izgradnja dogodila ovdje povoljna je lokacija četvrti u središtu Osijeka, gdje, je po generalnom urbanističkom planu, dopuštena gradnja višekatnih zgrada.

This paper gives a detailed overview of the situation in the western part of the Upper Town, bounded by Strossmayer Street to the north, Županijska Street to the east, Kanižličeva Street to the west and Reisnerova Street to the south (Fig. 5). This area was selected due to the fact that new, multiunit construction is most pronounced here and has most changed the appearance of the neighbourhood. This is a residential area primarily with family houses and several planned residential neighbourhoods with multiunit buildings, primarily within blocks, and several tall buildings distributed through the neighbourhood, with a small number of commercial structures, primarily for trade and hospitality. The reason why this mass construction occurred in this area is the favourable location of the neighbourhood in the centre of Osijek, where the general urban plan permits the construction of multi-storey buildings.





Sl. 5. Visoka gradnja u zapadnom dijelu Gornjeg grada (više od tri etaže)  
Fig. 5. Tall buildings in the western part of the Upper Town (higher than three stories)

Zahvaljujući povoljnom položaju, investitor može tražiti višu cijenu stana nego u udaljenijim dijelovima grada. Zgrade su raspoređene po gotovo svim ulicama, odnosno svugdje gdje su investitori imali parcelu na kojoj su mogli ishoditi dozvolu za gradnju višestambenih

Thanks to the favourable position, investors are able to seek a higher price than in more remote parts of town. The buildings are distributed on virtually all the streets in the neighbourhood, i.e. everywhere that investors were able to purchase plots of lands and obtain construc-



zgrada. U zadnjih 20 godina na promatranom području je izgrađeno ili je trenutno u izgradnji preko 70 zgrada s više od tri etaže, s preko 1000 novih stanova.

Stambena gradnja je izvedena tako da nisu zadovoljene infrastrukturne i prostorne potrebe, investitori maksimalno koriste parcele i često izbjegavaju sve obveze koje bi pridonijele kvaliteti cjelokupne urbanističke situacije Osijeka, a tako nastali problemi prelaze na teret gradske uprave. Kad se na mjestu jedne kućice izgradi zgrada s dvadesetak stanova, dolazi do značajnog povećanja potrebe kapaciteta vode, struje, kanalizacije, parkirališta, vrtića, igrališta, što investitori ne rješavaju. S obzirom da su zgrade građene uglavnom na parcelama gdje su bile jedna ili dvije stambene jedinice, dolazimo do zaključka da na mjestu gdje se nekad nalazilo možda 150 stambenih jedinica danas ima preko 1000 novih.

Pretjeranom stambenom izgradnjom zapadni dio Gornjeg grada izgubio je šansu da postane kvalitetni urbani prostor obiteljskog življenja uz središte grada, jer za povećani broj stanovnika ne postoje dovoljni javni, društveni niti rekreacijski sadržaji, a posebno je izražen problem nedostatka slobodnog javnog prostora, najviše zbog povećane motorizacije i zauzimanja površina automobilima. Zapadni dio Gornjeg grada karakterizira i potpuni nedostatak rekreacijskih površina, osim zelenih površina u okviru kuća, stambenih blokova i privatnih vrtova.

Nove zgrade utječu na morfološku strukturu cijelog grada jer su visoke zgrade uglavnom integrirane u nizove niskih jednoobiteljskih kuća te se ističu u tim nizovima i vizualno dominiraju prostorom. Nove stambene zgrade imaju između 3 i 6 etaža i, osim zgrade „Eurodoma“, u Osijeku u posljednjih desetak godina nije izgrađena nijedna zgrada s više od 6 etaža. Oblici zgrada su raznovrsni i ne postoji tip ili oblik zgrada koji prevladava. Izmjenjuju se ravni i kosi krovovi, razni stilovi i oblici, i, posebice, raznolike boje, ali karakteristika im je da se vizualno ne uklapaju u postojeće prostore. Pri izdavanju građevinskih dozvola važne su bile samo vanjske dimenzije zgrada, tako da je finalni proizvod najčešće bez arhitektonske i estetske vrijednosti. Devastacija prostora divljom neplanskom gradnjom, kojom dirigira samo tržište, obilježje je tranzicije cijelog područja jugoistočne Europe, a ne samo Hrvatske.

U 2008. godini u Osijeku je osnovano Povjerenstvo za ocjenu arhitektonske uspješnosti, kolokvijalno nazvano „Povjerenstvo za lijepo“, koje je uključeno u izdavanje lokacijskih dozvola zahtjevnim građevinama kao što su stambene zgrade, škole, hoteli i slično, a mišljenje povjerenstva nije potrebno za gradnju obiteljske kuće. Povjerenstvo gleda odnos objekta prema okruženju,

tion permits for multi-storey buildings. In the past 20 years, more than 70 buildings higher than three stories, including more than 1000 new flats, have been built or are under construction in the neighbourhood.

The residential construction has been executed in such a way that neither the infrastructural or spatial requirements have been met. Investors have maximized construction dimensions per plot and often avoid any obligations that would contribute to improving the quality of the overall urban situation in Osijek, and the problems arising are then transferred to the city administration. When a building with 20 flats is erected in the place of a single family home, there is a significant increase in the capacity requirements for water, electricity, sewage, parking, kindergartens and playgrounds, which the investors do not resolve. Considering that these buildings have primarily been erected on plots of land which previously held one to two family homes, the conclusion is that today there are more than 1000 new residential units in an area where there were formally about 150 units.

With the excessive residential construction in the western part of the Upper Town, the opportunity to develop a high quality urban area of family living in the city centres has been lost, as there are no public, social or recreational facilities to serve the increased population, and this is particularly emphasized in the lack of free public areas, primarily due to increased traffic and increased areas occupied by automobiles. The western part of the Upper Town is also characterised by a complete lack of recreational areas, with the exception of green areas surrounding houses, residential blocks and private gardens.

These new buildings are influencing the morphological structure of the entire city, as the tall buildings have primarily been integrated into series of low single family homes and as such these buildings stand out in these rows and visually dominate the space. The new residential buildings have between three and six stories. With the exception of the 'Eurodom' building, there have been no buildings higher than six stories built in Osijek in the past ten years. Building shapes vary, and there is no dominant type or shape of building. Flat and sloped roofs alternate, as do various styles, forms and colours, but a feature they all share is that they do not visually blend into the existing space. In issuing construction permits, the only important factors are the external building dimensions, and the final product is often without any architectural or aesthetic merit. The spatial devastation due to illegal and unplanned construction guided only by the market is a characteristic of the transition throughout the whole of Southeast Europe, and is not limited only to Croatia.

In 2008, a Commission for the assessment of architectural success was established in Osijek, and is colloquially called the 'Commission for prettiness'. The Commission is included in the issuance of location permits for more de-

na parceli koje taj objekt generira, arhitektonsku koncepciju te namjenu objekta. Nažalost, povjerenstvo ne može djelovati retroaktivno, tako da će mnoge neprikladne građevine biti ostavština budućim naraštajima i podsjećanje na „graditeljsku eksploziju“ na početku novog tisućljeća.

## ZAKLJUČAK

U morfološkoj strukturi Osijeka, mreža ulica se nije značajnije širila, a najvidljivija je masovna pojava višestambenih zgrada, interpoliranih u nizove niskih obiteljskih kuća. Način gradnje je raznolik, a glavna karakteristika novih zgrada je maksimalna izgrađenost parcela, često bez odgovarajućih infrastrukturnih i prostornih uvjeta s čestim neispunjavanjem uvjeta humanizirane gradnje koji su bili uobičajeni u vrijeme realsocijalističkog uređenja. Funkcionalni i estetski problemi često su nastajali radi privatnih investitora koji su gradili zgrade koje su sami projektirali, bez korištenja arhitektonskih usluga. Trgovački centri i poslovne zgrade su također novi elementi u morfološkoj strukturi, posebice po izgledu, načinu gradnje i velikim dimenzijama.

Današnja morfološka struktura Osijeka posljedica je duge urbane tradicije i višestoljetnog razvoja grada, ali i političkih, gospodarskih i društvenih promjena na početku 90-ih godina 20. stoljeća kroz koje je Osijek prošao nakon osamostaljenja Hrvatske. Domovinski rat i ratna razaranja te, na koncu, provedena privatizacija također su imali utjecaj na morfološku strukturu grada. Svakako valja napomenuti da su ratna zbivanja zaustavila bilo kakvu izgradnju u Osijeku. Stoga su sve značajne suvremene promjene u prostoru nastale u posljednjih desetak godina.

manding structures such as residential buildings, schools, hotels and the like, while the opinion of the Commission is not required for the construction of family homes. The Commission examines the building in relation to the surrounding environment, the plot of land upon which the building is to be erected, the architectural concept and the intended use of the building. Unfortunately, this Commission is unable to give retroactive opinions, and many inappropriate structures will be left for future generations and will serve as a reminder of the “construction explosion” from the turn of the new millennium.

## CONCLUSION

In the morphological structure of Osijek, the street network has not been significantly expanded, and the most evident is the massive appearance of multiunit buildings interpolated into rows of low, single family homes. The manner of construction is diverse, and the main characteristic of the new buildings is maximum utilisation of plot size, often without the accompanying infrastructural and spatial conditions and frequently without fulfilling the conditions of humane construction that were common during the Socialist period. Functional and aesthetic problems have often arisen due to the work of private investors building structure that they designed themselves, without the services of an architect. Shopping centres and commercial buildings are also new elements in the morphological structure, especially in terms of appearance, manner of construction and dimensions.

The present day morphological structure of Osijek is the consequence of a long urban tradition and centuries of development of the city, in addition to the political, economic and social changes in the early 1990s that Osijek faced after Croatia gained its independence. The Homeland War and war destruction, followed by the privatisation processes also had an impact on the morphological structure of the city. It is certainly necessary to note that the war events halted all construction in Osijek and therefore all the contemporary spatial changes have arisen in the past ten year period.



## LITERATURA I IZVORI LITERATURE AND SOURCES

- Abarkan, A. (2009.): The study of urban form in Sweden. *Urban Morphology* 13 (2), ISUF, Birmingham, 121-127.
- Biškup, Z. (2002.): Transformacija gradske jezgre Bjelovara od njegova utemeljenja do danas. *Hrvatski geografski glasnik* 64 (1), HGD, Zagreb, 55-70.
- Gaćina, S., Ivanković, G. M. (1996.): Planovi i vedute Osijeka. Muzej Slavonije, Osijek.
- Google Earth, 23 October 2011
- Jukić, T., Pegan, S. (2001.): Prostorni i urbanistički razvoj Osijeka, Kritika i prijedlozi. Sveučilište u Zagrebu, Arhitektonski fakultet, Zagreb.
- Krajnik, D., Obad Šćitaroci, M., Bojanić Obad Šćitaroci, B. (2008.a): City fortifications and the form of European cities, with special reference to Croatia. *Urban Morphology* 12 (2), ISUF, Birmingham, 117-129.
- Krajnik, D., Obad Šćitaroci, M. (2008.b): Preobrazba bastionskih utvrđenja grada Osijeka. *Prostor* 16 (2), Sveučilište u Zagrebu, Arhitektonski fakultet, Zagreb, 168-179.
- Kubat, A. S. (2010.): The study of urban form in Turkey. *Urban Morphology* 14 (1), ISUF, Birmingham, 31-48.
- Njegač, D., Gašparović, S., Stipešević, Z. (2010.): Promjene u funkcionalno-prostornoj strukturi Osijeka nakon 1991. godine. *Hrvatski geografski glasnik* 72 (2), HGD, 101-121.
- Ondoš, S. (2003.): Morpho-functional interpretation of city centre in Bratislava. *Acta Universitatis Carolinae - Geographica* 38 (1), The Charles University Press, Prag, 317-330.
- Pepeonik, Z. (1972.): Osijek. *Geografski horizont* 18 (1-2), HGD, Zagreb, 1-16.
- Poličić, A., Husanović Pejnović, D. (1996.): Osijek – geografske osnove razvoja grada. *Geografski horizont* 42 (2), HGD, Zagreb, 33-47.
- Prelogović, V. (2008.): Socio-prostorna polarizacija u Zagrebu. Doktorska disertacija, Geografski odsjek PMF-a, Zagreb.
- Rajčić, A.-M. (2006.): Urbanistički razvoj grada Hvara – pregled osnovnih faza. *Prostor* 14 (1), Sveučilište u Zagrebu, Arhitektonski fakultet, Zagreb, 89-102.
- Rebernik, D. (1994.): Morfološka in socialnogeografska struktura Celja. *Geografski vestnik* 66, ZGS, Ljubljana, 35-58.
- Rego, R. L., Meneguetti, K. S. (2008.): British urban form in twentieth-century Brazil. *Urban Morphology* 12 (1), ISUF, Birmingham, 25-34.
- Satoh, S. (2008.): Urban morphology in Japan: researching castle towns. *Urban Morphology* 12 (1), ISUF, Birmingham, 5-10.
- Slavuj, L., Cvitanović, M., Prelogović, V. (2009.): Emergence of problem areas in the urban structure of post-socialist Zagreb. *Spatium International Review* 21, Institut za arhitekturu i urbanizam Srbije, Beograd, 76-83.
- Slukan-Altić, M. (2006.): Morphological and functional change in Zagreb Lower Town (Donji grad) 1862-1914 based on cadastral sources. *Prostor* 14 (1), Sveučilište u Zagrebu, Arhitektonski fakultet, Zagreb, 2-19.
- Sršan, S. (2000.): Osijek – kulturno-povijesni vodič. Državni arhiv u Osijeku, Osijek.
- Studija demografskog razvitka i stanovanja Grada Osijeka, Zavod za prostorno planiranje d.d., Osijek, 2001.
- Šmit, K. (1997.): Vrtne i parkovna arhitektura Osijeka na povijesnim kartama. *Prostor* 5 (1), Sveučilište u Zagrebu, Arhitektonski fakultet, Zagreb, 97-120.
- Vresk, M. (1990.a): Grad u regionalnom i urbanom planiranju. Školska knjiga, Zagreb.
- Vresk, M. (1990.b): Osnove urbane geografije. Školska knjiga, Zagreb.
- Vresk, M. (2002.): Grad i urbanizacija. Školska knjiga, Zagreb.
- Warf, B. (ur.) (2006.): Encyclopedia of human geography, SAGE Publications, Thousand Oaks – London – New Delhi.
- Wertheimer-Baletić, A. (1996.): Stanovništvo Osijeka i osječkog kraja 1948.-1991. Anali zavoda za znanstveni rad u Osijeku 12, HAZU, Zavod za znanstveni i umjetnički rad u Osijeku, Osijek, 9-35.

## SAŽETAK

Urbani geografi definiraju grad kao dio određenog prostora izgrađenog urbanim sadržajem. Svaki grad karakterizira, u većoj ili manjoj mjeri složena, prostorna struktura, koju čine tri sastavnice: funkcionalna, socijalna i morfološka. Morfološka struktura grada odnosi se na prostorni raspored morfoloških elemenata i njihov međudnos na prostoru grada. Morfološki elementi su npr. zgrade i drugi objekti, ulice, trgovi, parcele, javne površine i blokovi zgrada, koje pak karakterizira gustoća izgrađenosti, visina, oblik, izgled objekata i slično.

Morfološku strukturu gradova u svijetu često istražuju kako geografija, tako i ostale znanosti, dok se problematika morfološke strukture hrvatskih gradova relativno rijetko obrađuje, posebice s geografskog aspekta.

Stoga se u ovom radu istražuje, analizira i definira morfološka struktura Osijeka prije 1991. godine i danas te procesi koji su na nju utjecali, prilikom čega je dan poseban osvrt na procese promjena i prenamjena korištenja zemljišta (gradnja višekatnih stambenih zgrada na površinama niskih stambenih jedinica). Prilikom istraživanja korištene su metode terenskog istraživanja uz kartiranje, analize kartografskih izvora izrađene na temelju terenskog kartiranja, interpretacije statističkih podataka te korištenja i analize pojedinih rezultata prethodnih istraživanja.

Raspadom socijalističkog planskog sustava i ulaskom Republike Hrvatske u gospodarsku tranziciju, Osijek je doživio stanovite društveno-ekonomske promjene. Također, utjecaj na grad imao je i Domovinski rat, kada je Osijek bio izravno zahvaćen ratnim djelovanjima i pretrpio značajna ratna razaranja. Završetak rata, gospodarska tranzicija, kapitalističko tržišno gospodarstvo te privatizacija utjecali su i na određene promjene u prostornoj strukturi, a samim time i u morfološkoj strukturi Osijeka.

U okviru morfološke strukture valja istaknuti da Osijek ima složeni plan grada i heterogenu strukturu koja je posljedica duge urbane tradicije i višestoljetnog razvoja grada. Tijekom povijesti su se na jezgre naselja čijim je spajanjem nastao grad, dodavali novi dijelovi s novim rasporedom ulica, pod utjecajem trenutnih društveno-ekonomskih uvjeta. Početak razvoja sadašnje gradske mreže označava gradnja barokne tvrđave nakon oslobođenja grada od Turaka, unatoč postojanju antičkog, srednjovjekovnog i turskog Osijeka. Zbog svog specifičnog geoprometnog položaja Osijek je u prošlosti više puta stradao i bio srušen do temelja te ponovo građen. Barokna tvrđava (Tvrđa) nastala je na početku 18. stoljeća na mjestu grada izgrađenog u srednjem vijeku i u tursko doba, a zatečena urbanistička struktura postupno je promijenjena, prilikom čega je orijentalna osnova turskog Osijeka u potpunosti napuštena i pristupilo se planskom uređenju, organizaciji i izgradnji grada unutar zidina. Tvrđu karakterizira raspored blokova zgrada, ulica i trgova u okviru pravilnog rastera u kojem dominiraju dvije prometnice i veliki glavni trg te je Tvrđa jedan od rijetkih dijelova grada koji ima pravilnu strukturu očuvanu od osnutka grada do danas.

Ostatak Osijeka karakterizira izmjenjivanje dijelova grada s donekle pravilnom mrežom ulica s dijelovima gra-

## SUMMARY

Urban geographers define a city as a part of an organised space constructed with urban content. Every city is characterised by its spatial structure, which is more or less laid out, and which is comprised of three elements: the functional, social and morphological. The morphological structure of the city relates to the spatial distribution of the morphological elements and their mutual relations within the city area. Morphological elements are, for example, buildings and other structures, streets, squares, plots of land, public areas and blocks of buildings, which are characterised by the density of their construction, height, shape, appearance, etc.

The morphological structure of cities around the world is often investigated by geographers and other scientists, while the issue of the morphological structure of Croatian cities has been addressed relatively rarely, particularly from the geographical aspect.

Therefore, this paper investigates, analyses and defines the morphological structure of Osijek prior to 1991 and today and the processes that have influenced that structure. Special emphasis is placed on the processes of changes and rezoning of land (construction of multi-storey residential buildings in areas with low residential units). Study methods included field surveys with mapping, analysing map source created on the basis of field mapping, interpretation of statistical data and use and analysis of results of prior studies.

With the disintegration of the Socialist planning system and entry of the Republic of Croatia into economic transition, Osijek experienced a range of socioeconomic changes. The Homeland War also had a significant impact on the city, as it was directly affected by the war events and subject to significant war destruction. The end of the war, economic transition, the capitalist market economy and privatisation all influenced certain changes in the spatial structure, and with that, the morphological structure of Osijek.

Within the morphological structure, it is necessary to stress that Osijek has a complex city layout and a heterogeneous structure due to the long urban tradition and centuries of development of the city. Over history, core settlements were merged together to form the city, and new sections with new streets were added under the influence of the socioeconomic situation in place at the time. The start of development of the current city network was marked by the construction of the Baroque fortress following the liberation of the city from the Turks, despite the existence of the city during ancient, medieval and Ottoman times. Due to its specific geopolitical position, Osijek was ravaged and destroyed completed several times over history, and again rebuilt. The Baroque fortress was erected in the early 18<sup>th</sup> century at the site of an earlier city built in the medieval ages and under Turkish rule, and the existing urban structure was completely altered, i.e. the basic Turkish Osijek was completely abandoned and planned organisation and construction of the city within the city walls began. The fortress is characterised by the distribution of blocks of buildings, streets and squares in grid format, dominated by two roads and a large square, making the fortress one of the rare parts of the city with a regular structure that has been preserved to the present day.

The rest of the city is characterised by alternating city neighbourhoods with a fairly regular street network with neigh-



da s nepravilnom mrežom. U dijelovima grada s pravilnom mrežom ulica dominira smjer pružanja istok - zapad, sjever - jug. U godinama visoke urbanizacije, velike površine gradskog građevinskog zemljišta bile su zaposjednute „divljom“ individualnom gradnjom, što je kasnije postala prepreka optimalnom razvoju grada prema južnim granicama.

Određena obilježja elemenata morfološke strukture zajednička su cijelom gradu. Materijal kojim su građene kuće je najčešće opeka, a ponegdje, i u manjem broju, su starije kuće od zemlje ili od kamena. Položaj kuća u odnosu na ulicu se izmjenjuje kroz grad. U pravilu su kuće u starijim naseljima čeonom stranom okrenute prema ulici. Oblik krova je, kao i u većini kontinentalne Hrvatske, najčešće dvostrešni (sedlasti), s kutom od oko 90° u nižim građevinama, i ravni krov na višestambenim zgradama. 57,8% stambenog fonda je izgrađeno između 1961. i 1981. godine u doba ubrzanе urbanizacije i velikog povećanja broja stanovnika Osijeka tijekom socijalističkog planskog razdoblja u okviru tadašnjeg urbanog planiranja, a 17,3% je izgrađeno prije 1918. godine.

Kako su se promjene u morfološkoj strukturi grada odvijale u manjoj mjeri u zadnjih dvadeset godina, a zbog rata do cca. 1998. godine nije bilo gotovo nikakve gradnje, Osijek se nije širio, izgrađeno je samo nekoliko novih ulica, tako da je mreža ulica neznatno povećana. Dominantno obilježje stambene gradnje nakon 1991. godine je maksimalna dozvoljena izgrađenost parcele, a ponekad čak i premašivanje dozvoljene gradnje pri čemu nisu ispunjavani uvjeti humanizirane gradnje, koji su bili uobičajeni u predratnom periodu. Nove zgrade utječu na morfološku strukturu cijeloga grada jer su visoke zgrade uglavnom integrirane u nizove niskih jednoobiteljskih kuća te se ističu u tim nizovima i vizualno dominiraju prostorom. Oblici zgrada su raznovrsni i ne postoji tip ili oblik zgrada koji prevladava. Izmjenjuju se ravni i kosi krovovi, razni stilovi i oblici, i posebice raznolike boje, ali karakteristika im je da se vizualno ne uklapaju u postojeće prostore. Devastacija prostora divljom neplanskom gradnjom, kojom dirigira samo tržište, obilježje je tranzicije cijelog područja jugoistočne Europe, a ne samo Hrvatske.

Ovakvo istraživanje ostavlja prostor za daljnje praćenje i proučavanje karakteristika morfološke strukture Osijeka u budućnosti, no svakako bi valjalo istražiti i definirati značajke morfološke strukture i ostalih hrvatskih gradova.

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**Dr. sc. Dražen Njegač, red. prof.,** Geografski odsjek Prirodoslovno-matematičkog fakulteta, Marulićev trg 19/II, 10 000 Zagreb

**Slaven Gašparović, znanstveni novak – asistent,** Geografski odsjek Prirodoslovno-matematičkog fakulteta, Marulićev trg 19/II, 10 000 Zagreb

**Zvonimir Stipešević, prof.,** Svete Ane 42, 31 000 Osijek

bourhoods with an irregular network. In the parts of the city with a regular network, the dominant direction of roads is east-west and north-south. In the years of strong urbanisation, large areas of the city construction land were subjected to unplanned, individual construction, which later became a barrier to the optimum development of the city towards its southern borders.

Certain properties of the morphological structure are common throughout the city. The most common building material is brick, though some older houses are also made from earth or stone. The position of houses in relation to the street changes through the city. In general, houses in the older neighbourhoods face the street. The roof shape, like in the majority of continental Croatia, is saddle-shaped, with an angle of about 90° in lower structures and a flat roof on multiunit buildings. A total of 57.8% of the residential units were constructed in the period between 1961 and 1981 during the period of rapid urbanisation and a large increase in the population of Osijek, which was also during the Socialist planning period of the urban planning system at the time. Only 17.3% of structures were built prior to 1918.

Considering that the changes in the morphological structure of the city in the past twenty years have been on a smaller scale and that in the period from 1991 to 1998 there was virtually no construction due to the war, Osijek did not expand, and only several new streets were built, thereby only insignificantly increasing the street network. The dominant characteristic of residential construction after 1991 is the maximum coverage of land plots, and even surpassing permitted building dimensions. The conditions of humane construction that were typically met in the pre-war period were not abided by. New buildings have impacted the morphological structure of the entire city, as the tall buildings are primarily integrated among rows of low single family homes, and they stand out in those rows and visually dominate the space. The buildings are of varying shape and there is no type or form of building that prevails. Flat and sloped roofs alternate, as do various styles, shapes and colours, however, they all share the characteristic that they do not visually blend into the environment. The devastation of the area through illegal and uncontrolled construction, led only by the market, is a transition of the entire region of Southeast Europe, and is not limited only to Croatia.

This study leaves room for further monitoring and study of the characteristics of the morphological structure of Osijek. It would certainly also be worthwhile to define the characteristics of the morphological structure of other Croatian cities.

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**Dražen Njegač, PhD, Professor,** Department of Geography, Faculty of Science, University of Zagreb, Marulićev trg 19/II, 10 000 Zagreb

**Slaven Gašparović, Junior Researcher,** Department of Geography, Faculty of Science, University of Zagreb, Marulićev trg 19/II, 10 000 Zagreb

**Zvonimir Stipešević, MSc,** Svete Ane 42, 31 000 Osijek,

